OWNER'S MANUAL

DIGITAL MULTI-DIMENSIONAL

SYNTHESIZER MODULE

K1r

KAWAI

Introduction

The Kawai K1r rack-mount digital synthesizer module both offer 16-voice (max.) polyphonic output from Kawai's VM additive synthesis tone generator.

Features

★ **VM tone generator**
The K1r built-in sound generator offers a selection of 256 basic waveforms using the two most advanced approaches to sound synthesis: 204 formed by the additive synthesis of the first 128 harmonics; 52 recorded with PCM sampling. You can freely mix up to four of these waveforms to produce an entirely new sound: a crisp digital sound, a rich analog sound, or any combination in between.

★ **AM (Ring modulation)**
The addition of ring modulation expands the K1r range to include overloaded sounds of the type that digital waves alone cannot reproduce.

★ **Rich selection of tone patches**
The K1r leaves the factory with 64 SINGLE patches and 32 MULTI patches already stored in its internal memory bank. The K1r's full editing capabilities and DC-8 memory cards (available as extra cost options) allow you to build up your own library of original sounds.

★ **Built-in percussion section**
The K1r contains its own rhythm section: a total of nine drum and other percussive effects recorded with PCM precision.

★ **Superb touch response**
The K1r module's touch response acts on two types of information from the external MIDI keyboard: velocity, the force with which you hit the key, and aftertouch, the pressure that you apply as you hold the key down.

★ **Multi-tone patch LINKs**
The K1r LINK function allows you to link up to eight tone patches — SINGLE or MULTI, INTERNAL or EXTERNAL —from the 192 available and then step through the series during a performance simply by pressing the LINK switches.

★ **MULTI patches**
The K1r's MULTI patches go far beyond the DUAL or SPLIT functions of other synthesizers in that they allow you to assign up to eight different SINGLE patches to different ranges on the keyboard and divide the key velocity as well.

★ **Variable multi-timbre operation**
This function helps maximize the use of the K1r's 16-voice polyphonic capabilities by automatically redistributing unused capacity from one section to another.

★ **Full MIDI implementation**
Since each sound source can be assigned a different MIDI channel, each K1r MULTI patch can simultaneously serve as up to eight different MIDI sound sources.

Care and Maintenance

☐ **Proper Care**
Your K1r synthesizer is a delicate musical instrument. To prevent breakdowns and ensure years of reliable, trouble-free service, shield it from:
- Direct sunlight and exposure to the elements
- Extremes in temperature or humidity
- Dusty environments
- Vibration — especially during transport

☐ **Power Supply**
- Use only the AC adapter shipped with the K1r and connect it only to a power supply with a voltage within the limits stated on the ratings plate on the back.
- Make sure that all power switches are off before changing equipment connections.
- Check all equipment connections before applying the power.
- Do not connect to the same circuit as a heavy load or equipment that generates line noise.

☐ **Line Noise Reset**
- The high-speed microprocessor at the core of the K1r is extremely sensitive to line noise and sudden fluctuations in the supply voltage. Should it "lock up" under such conditions, simply turn it off for a few seconds and then reapply the power.

☐ **Cleaning**
- Clean the instrument with a soft cloth, a mild detergent, and lukewarm water.
- Never use harsh or abrasive cleansers or organic solvents.

☐ **Battery Backup**
- The lithium battery that protects the memory contents while the power to the unit is off is good for more than five years of normal use. We recommend, however, that you have your nearest authorized service representative replace it promptly after five years.

☐ **Repairs**
- Always save the INTERNAL tone patches to a memory card before taking the unit in for repairs or servicing. Otherwise, they may be lost in the course of testing.

☐ **Memory Cards**
- The K1r uses Kawai DC-8 memory cards for external data storage. These cards are available from your nearest authorized Kawai dealer. Kawai DC-16 or DC-32 cards can also be used.

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III.3 See the Appendix "SINGLE Patch Parameters" for a brief summary of the editing process for "SINGLE patches.

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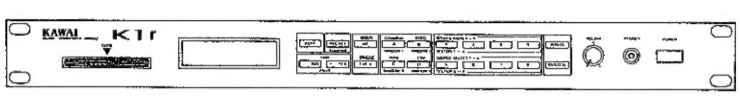
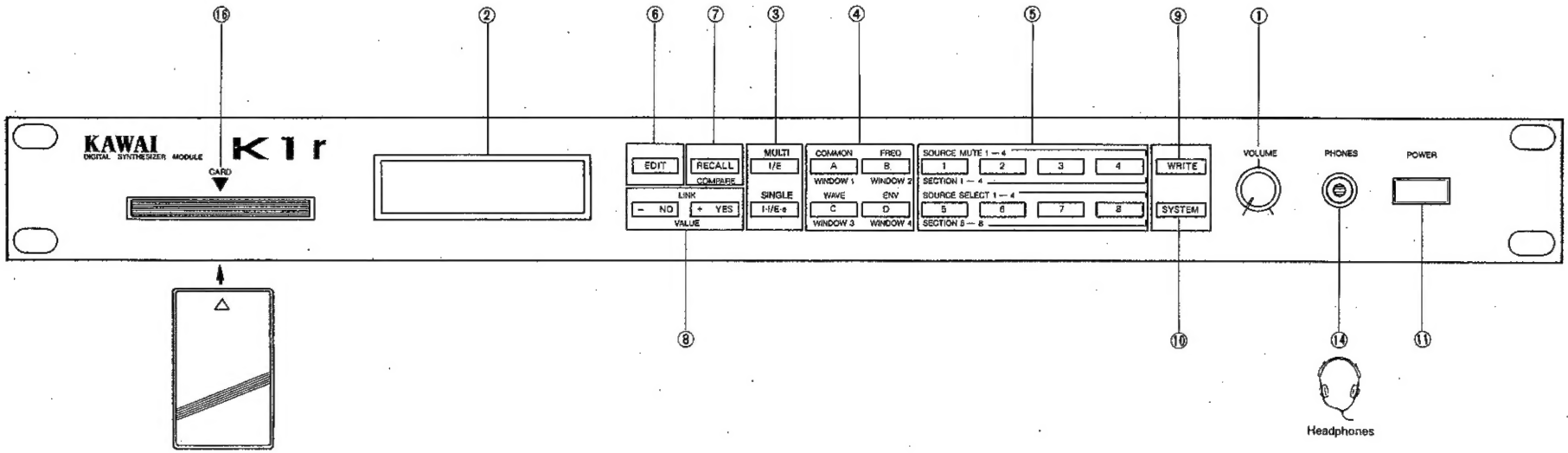
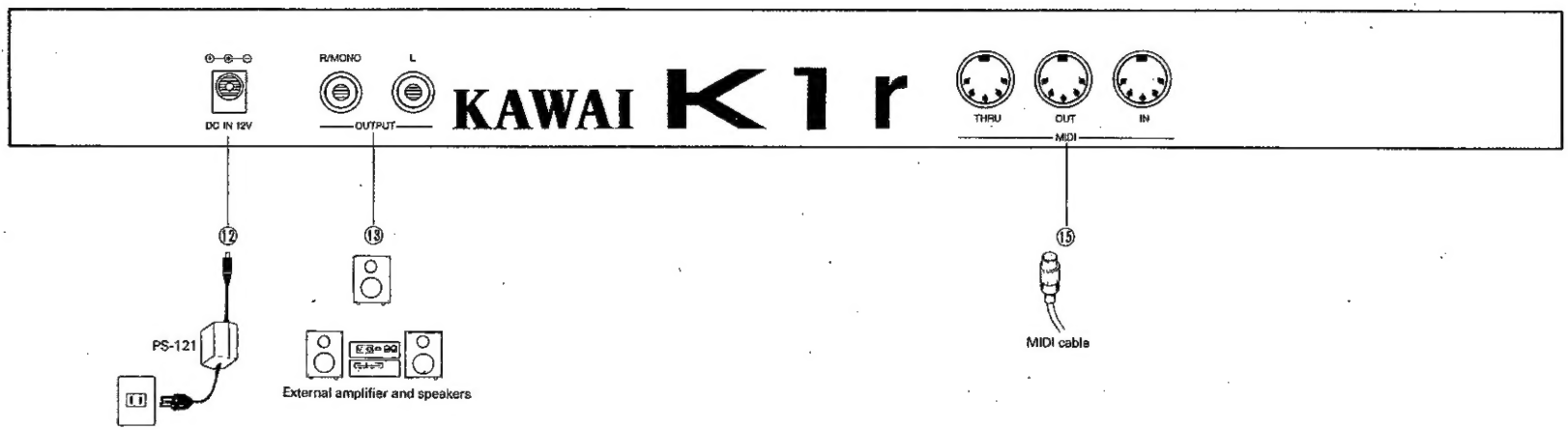




[Front Panel]



[Rear Panel]

Names of Parts

① VOLUME slider
Controls the output levels for the PHONES jack as well as the OUTPUT (R/MONO and L) jacks.

② Display
Performance: Indicates the number and name of the tone patch in use.
Editing: Indicates parameter name and current value.

③ Tone patch selector switches, I.Block (MULTI & SINGLE)
Switch between the SINGLE and MULTI sets of tone patches.

④ Tone patch selector switches, II.Bank (A, B, C, & D)
Performance: Select the tone patch bank.
Editing: Select parameters for editing. (See p.15.)

⑤ Tone patch selector switches, III.Number (1-8)
Performance: Select the tone patch number.
Editing: Switch SOURCEs on and off (SOURCE MUTE/SOURCE SELECT) for SINGLE patches and select SECTIONs for MULTI patches.
(See p.15/31.)

⑥ EDIT switch
Activates the tone patch editing functions.

⑦ RECALL/COMPARE switch
Performance: Switches to (RECALLs) the tone patch last edited.
Editing: Switches between (COMPAREs) the current state of the tone patch and the state that it was in at the beginning of the editing session. (See p.13, 14.)

⑧ LINK/VALUE switches
Performance: Switch to the next tone patch in the linked series.
Editing: Change the value of the current parameter.

⑨ WRITE/LINK switch
Editing: Overwrites the original tone patch with the edited version.
Linking: Adds the current tone patch to the chain. (Max. 8 per chain)

⑩ SYSTEM/MIDI switch
SYSTEM: Changes the unit's pitch (TUNE or TRANSPOSE). (See p.41.)
MIDI: Changes the MIDI receive (RCV) or transmit (TRS) parameters. (See p.40, 41.)

⑪ POWER switch
Controls the power to the unit.

Note: Check all connections BEFORE turning on the power.

⑫ DC IN jack
Accepts the plug from the PS-121 adapter.

⑬ OUTPUT jacks
Connect the unit to a KM-60 keyboard amplifier, public address system, audio amplifier, or similar equipment.

Note: The K1r contains no amplifier or speakers. Either use headphones or connect it to an external amplifier.

⑭ PHONES jack
Serves for stereo headphones.

⑮ MIDI connectors
Accept standard cables for connecting the unit to other MIDI instruments.

⑯ CARD slot
Accepts DC-8 memory cards (optional).

Note: Insert the card so that the arrow on it lines up with the one on the unit.

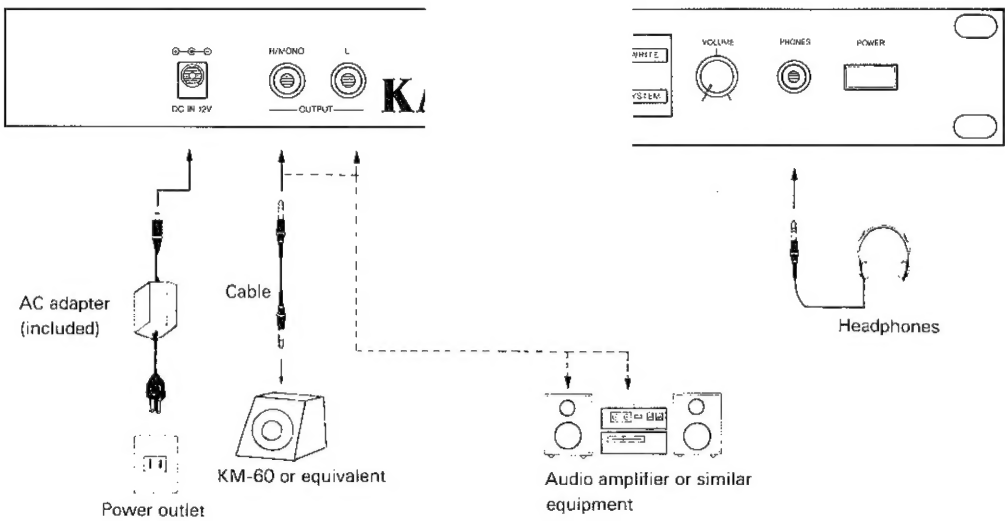
I. Playing the Factory Tone Patches

The K1r comes with a complete set of built-in tone patches. The best way to familiarize yourself with the instrument's capabilities is to experiment with these tone patches and examine the contents of their parameters.

1. Get sound

(1) Connect the instrument using the diagram below as your guide.

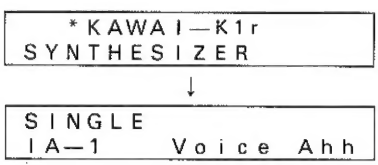
Note: Add a MIDI keyboard.



Note: The K1r contains no amplifier or speakers. Either use headphones or connect it to an external amplifier —a keyboard amplifier, radio-cassette player, or audio amplifier, for example.

(2) Shift the POWER switch (located on the front panel) to its ON position.

(3) Wait for the tone patch display.

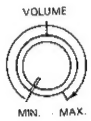


(This display lasts only a few seconds.)

(The unit is now ready to play.)

Note: The tone patch names and numbers used in this manual are not necessarily the same as those on your K1r or later versions.

(4) Press a key and gradually raise the volume to a comfortable listening level.



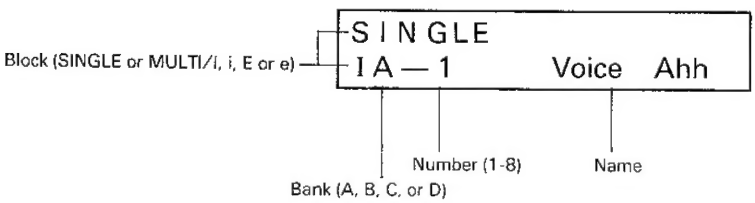
(5) Play.

Note: If raising the volume to its maximum fails to produce any output, check all connections and amplifier settings.

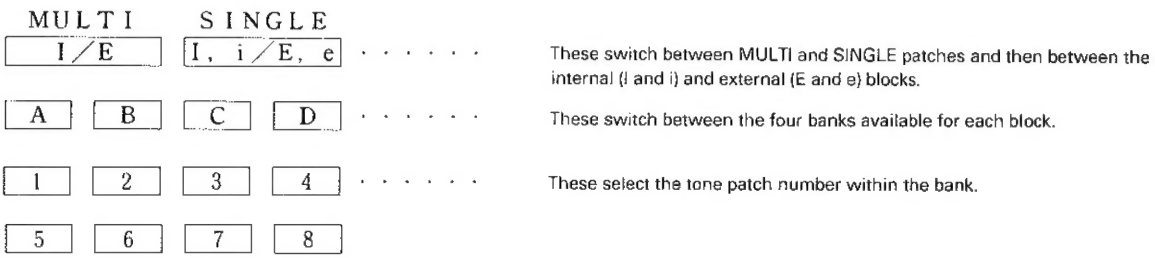
2. Choose a tone patch.

The K1r offers a selection of 64 SINGLE patches and 32 MULTI patches based on them.
The two-line display indicates which tone patch is currently in effect. The first line tells whether it is a SINGLE or MULTI patch; the second gives its tone patch number and name.

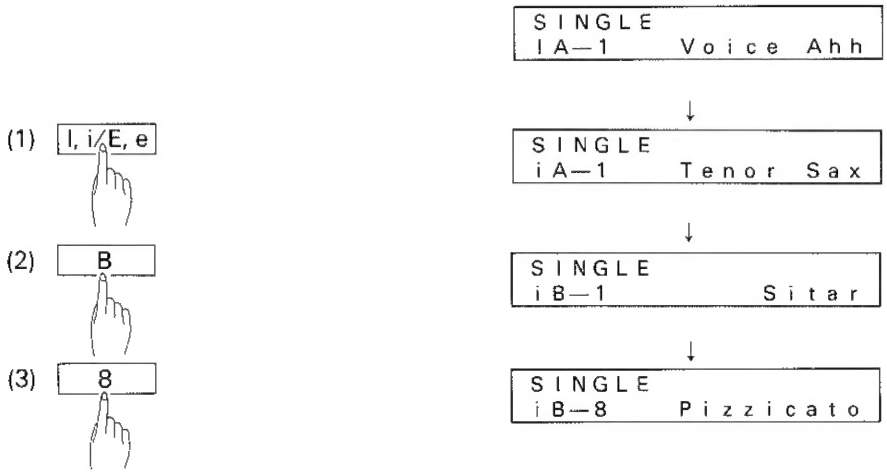
The tone patch number consists of three fields: I Block (SINGLE or MULTI/I, i, E, or e), II Bank (A, B, C, or D), and III Number (1~8).



The tone patch selector switches Groups I-III change these three fields.



Example: Changing to SINGLE patch iB-8



Note: The above three steps can be in any order.

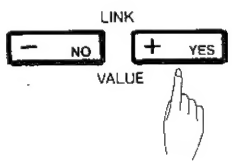
Note: The unit will not allow you to change the block to E or e unless there is a card firmly in place in the slot.

3. Try the extra features.

The K1r provides a wide range of additional features that you can exploit to enhance your performance.

(1) LINK function

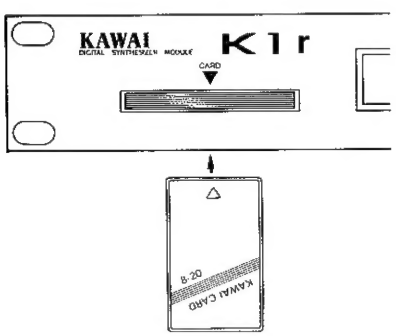
The K1r LINK function allows you to link up to eight tone patches — SINGLE or MULTI, INTERNAL or EXTERNAL — from the 192 available and then step through the series simply by pressing the LINK switches. This function saves valuable time during a live performance. (See p.37.)



Note: The upper right corner of the LCD screen keeps track of the position in the series. For example, **LINK:8-7** indicates that the synthesizer is currently using the seventh tone patch of an eight-member series

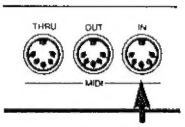
(2) CARD slot

In addition to the 96 internal tone patches, each optional DC-8 memory card provides storage for 64 SINGLE patches and 32 MULTI patches in blocks E and e (for external).



Note: Before storing data on the card, you must first format it for use with the K1r. (See p.38, 39.)

(3) MIDI jacks



The three MIDI jacks on the rear panel are your gateway to the world of MIDI music. You can, for example, play your K1r from another keyboard, a Kawai Q80, or other sequencer, or even the k1.

Note: The K1r comes with one MIDI cable.

Sample Setups

(a) Playing the K1r from an electric piano

(b) Playing the K1r from a sequencer

(c) Playing the K1r from a K1

4. Look over the construction of SINGLE or MULTI patch.

The K1r contains a total of 96 built-in tone patches — sets of complex waveform/parameter combinations. Two-thirds (64) of these are SINGLE patches. Each SINGLE patch is divided into four (or two) SOURCEs. Each SOURCE consists of a waveform chosen from the 256 basic waveforms available plus pitch, volume, and various other parameters for modifying it.

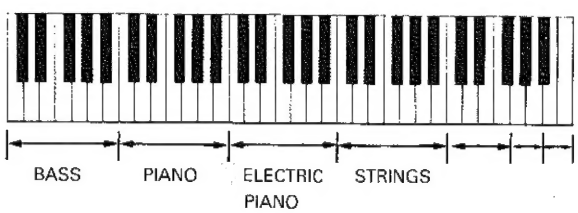
The remaining 32 tone patches are MULTI patches. Each MULTI patch is divided into eight SECTIONs. Each SECTION consists of a SINGLE patch plus various parameters that tie sound generation to key velocity and keyboard range.

In other words, the synthesizer merges four waveforms to produce a SINGLE patch and then merges eight SINGLE patches to form a MULTI patch. Certain built-in tone patches illustrate some of the ways in which you can exploit this capability.

(1) Splitting the keyboard.

One application would be to split the entire keyboard into various zones, assigning a different SINGLE patch to each zone: BASS to the lower third, PIANO to the middle, and STRINGS to the upper third, for example. The only limit is on the number of zones (max.8). The K1r otherwise gives you complete freedom to divide the keyboard as you wish.

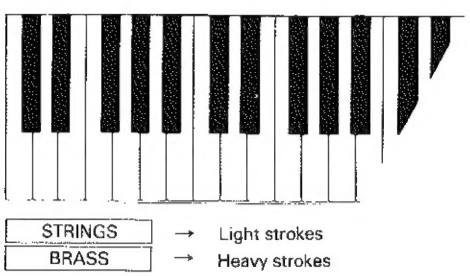
Example:



(2) Linking sound to velocity.

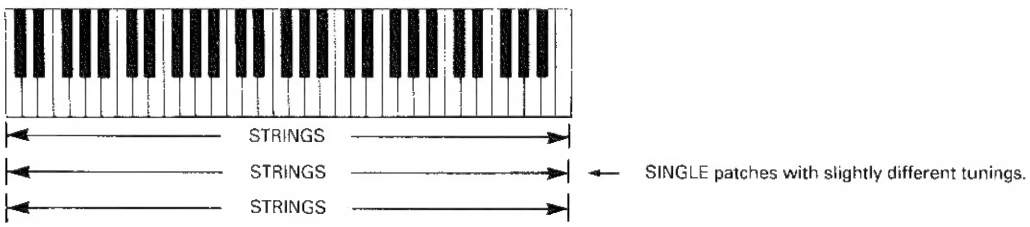
Another way to divide SINGLE patches would be to make the SINGLE patch dependent on the key velocity, the force with which you strike the key: STRINGS for light strokes and BRASS for heavier strokes, for example.

Example:



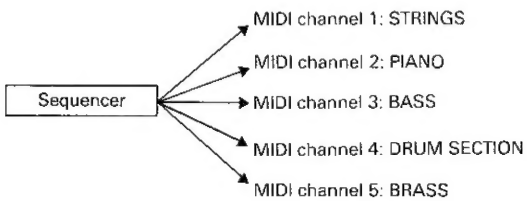
(3) Layering sounds.
Overlapping SINGLE patches with slightly different tunings or with complementary tones produces a richer, fuller sound.

Example:



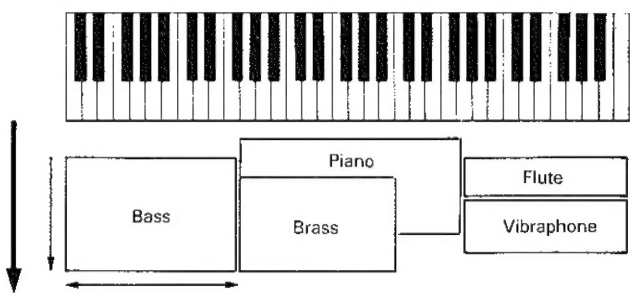
(4) Using the K1r as eight MIDI sound sources.
If you assign a different MIDI receive channel to each SINGLE patch in the MULTI patch, the K1r simultaneously performs as eight different MIDI sound sources. Since these can include the K1r's built-in percussion sounds, a sequencer or other external controller can use a single K1r for everything from rhythm to harmony.

Example:



(5) Combinations of the above
The K1r gives you complete freedom to combine SINGLE patches any way you wish.

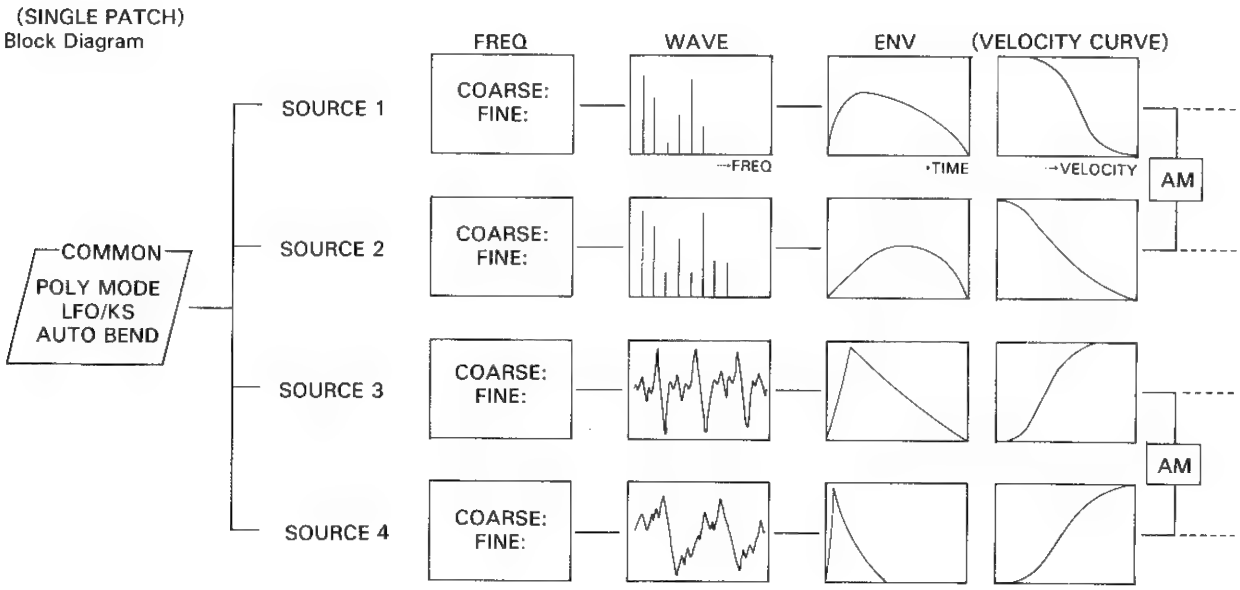
Example:



II. K1r Sound Sources

1. VM Tone Generator

The K1r allows you to combine up to four different SOURCEs, each with its own frequency, waveform, and envelope. The K1r also supports AM (Ring modulation), allowing you to use the output from one SOURCE to modulate the output from another.



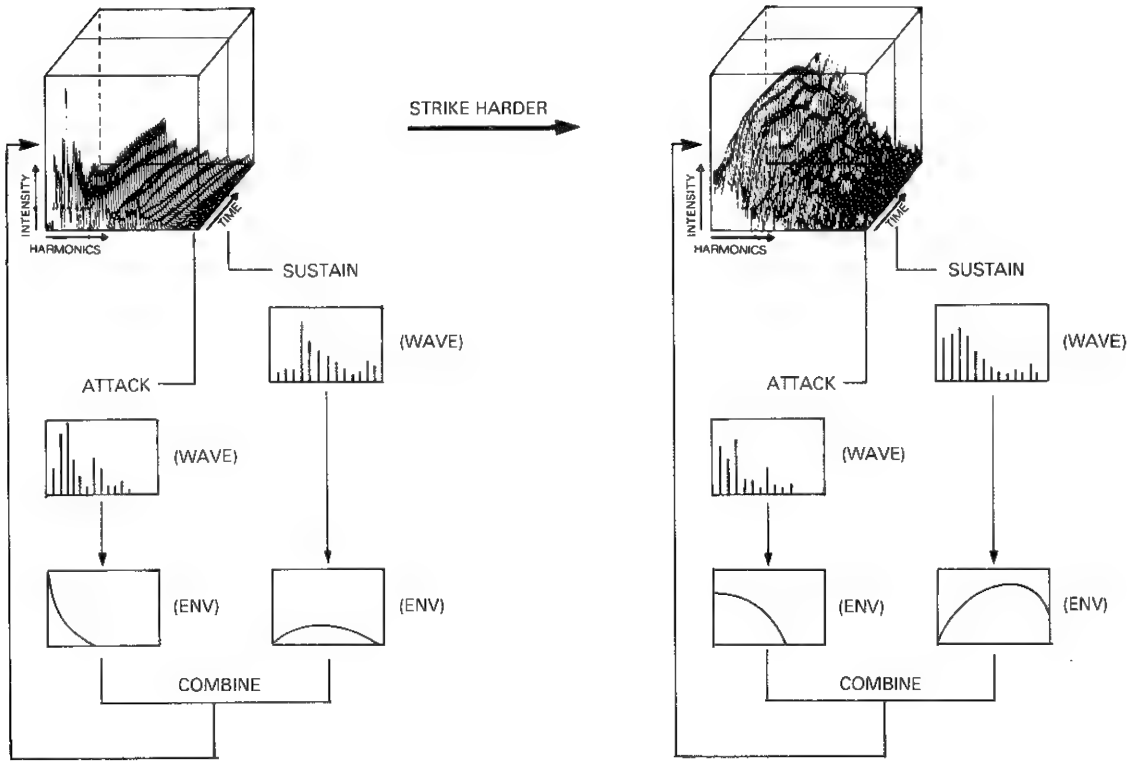
2. Digital Sound vs. Natural Sounds

If you listen carefully to a singer or a musical instrument, you will notice that each note exhibits at least three distinct phases: (1) a rapid rise in volume (ATTACK), (2) a relatively long constant phase (SUSTAIN), and (3) a gradual fading out (DECAY). You will also notice that blowing harder into a horn, plucking a string harder, or shouting changes the tonal quality, making the result brighter or distorted.

The ATTACK phase is particularly difficult to duplicate because it has a complicated harmonic distribution that changes rapidly with time. The K1r therefore uses PCM recordings of actual instruments to provide the most faithful reproduction.

A SINGLE patch on the K1r consists of up to four SOURCEs drawn from the 52 PCM waveforms and 204 VM waveforms available — a total of 256 — with a separate frequency and envelope for each.

The result is a combination that accurately reproduces the complex changes in tonal quality with time and velocity.

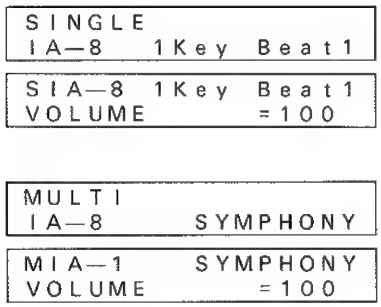

STRIKE HARDER
INTENSITY
HARMONICS
TIME
SUSTAIN
ATTACK
(WAVE)
(WAVE)
(ENV)
(ENV)
COMBINE
INTENSITY
HARMONICS
TIME
SUSTAIN
ATTACK
(WAVE)
(WAVE)
(ENV)
(ENV)
COMBINE

III. Editing Tone Patches

1. Basics

(1) EDIT mode

Besides its PLAY mode, the K1r features an EDIT mode which allows you to modify SINGLE and MULTI patches. To enter this mode, use the normal procedure to select the tone patch and then press the EDIT switch. To return to the PLAY mode, simply press either the MULTI or SINGLE switch.



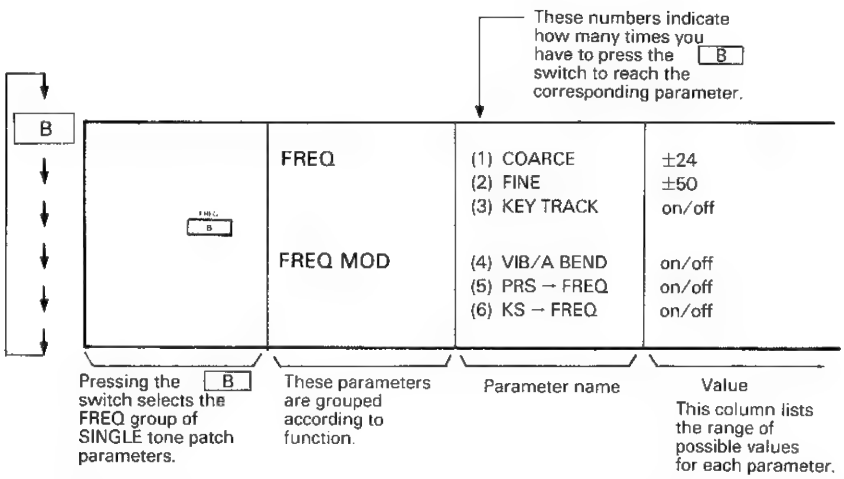
(2) Parameters and values

In the EDIT mode, the display gives two types of information: the name of the current parameter and its value. SINGLE patches list these pairs in four parameter groups; MULTI patches divide among four windows. Although the names differ, the basic procedure is the same: Select the group (SINGLE) or window (MULTI) with one of the four switches marked with the letters A, B, C, and D.

Note: The labels above these switches — COMMON, FREQ, WAVE, and ENV — give the group names for SINGLE patches; the ones below, the window names for MULTI patches.

Once you have selected a particular group or window, further presses on the same switch cycle through the list of parameters for that group or window.

Example:



After you have selected a particular parameter, change its value with the -NO / +YES switches.

(3) Storing the new tone patch

When you edit a tone patch, you work with a temporary copy that disappears when you turn off the power. If you wish to save the tone patch for later use, you must store it in the K1r's internal memory or on a memory card using the WRITE function. (See p.36.)

(4) RECALL and COMPARE functions

* **RECALL**

This function returns you to the last SINGLE or MULTI patch that you edited so that you can continue editing. It is most useful when you have accidentally left the EDIT mode by pressing the wrong switch and or turning the power off before saving an edited version of a SINGLE patch.

Note: This second use of the RECALL function is not available for MULTI patches.

This function actually remembers two tone patch numbers: one for SINGLE and one for MULTI. Pressing the switch selects the one matching the tone patch currently in use — in other words, the most recently edited SINGLE patch if the word SINGLE is on the first line of the display and the most recently edited MULTI patch otherwise.


```
SINGLE
IA—8  1Key  Beat1
        ↓
     RECALL
```

To resume editing, press the EDIT switch.


```
     RECALL
        ↓
SIA—8  1Key  Beat1
VOLUME  =100
```

EDIT mode

* **COMPARE**

This function allows you to compare the temporary copy that you are working on with the original tone patch. Pressing the COMPARE switch redisplays the original tone patch.


```
WAVE        PV-P
SELECT    =235
        ↓
WAVE        PV-P
SELECT    =256
```

Value before editing

Pressing it a second time returns you to the edited version.


```
WAVE        PV-8
SELECT    =235
```

Note: You cannot edit while using the compare function.

2. Editing a SINGLE Patch

(1) Basic approach

Each K1r SINGLE patch uses either two or four SOURCEs.
Because it would take too much time to construct a tone patch completely from scratch, the usual approach is to select the closest tone patch and then edit it.

(2) Procedure

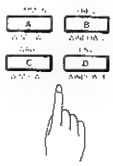
① In the PLAY mode, select the SINGLE patch that best approximates the desired sound.

```
SINGLE
IA—8   1Key Beat1
```

② Press the [EDIT] key.

```
SIA—8  1Key Beat1
VOLUME   =100
```

③ Select the parameter to be edited.

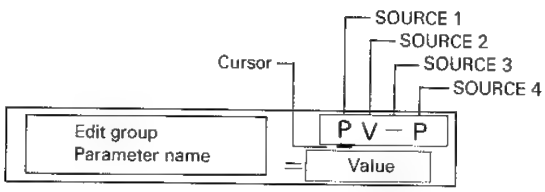


or [EDIT]

```
WAVE      PV-P
SELECT   =256
```

(3) EDIT display

The EDIT display provides four different types of information.



* Edit parameter name: This indicates the parameter being edited. Change with the letter switches (A, B, C, or D).

* Parameter value: This gives the current value for the parameter. Change with the [+YES] / [-NO] switches.

* SOURCEs: These indicate, from left to right, the current statuses of SOURCEs 1-4.

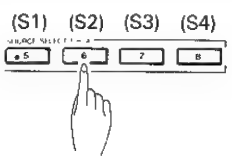
Status	Source
P	PCM waveform
V	VM waveform
—	Mute

Note: Use the SOURCE MUTE (numbers 1-4) switches to turn the individual SOURCEs on and off.

* Cursor This underline tells which SOURCE is being edited.

(4) Selecting a SOURCE to be edited

Press the corresponding SOURCE SELECT (numbers 5-8) switch. The cursor shifts to the appropriate symbol.




```
WAVE      PV-P
SELECT   =256
```

3. SINGLE Patch Parameters

(1) EDIT switch

There are two parameters that you can edit before proceeding to the ones grouped under the letter switches (A, B, C, and D):

EDIT -1 VOLUME

Determines the volume for the SINGLE patch.
Normally, this should be the maximum (100), but it may be necessary to adjust the balance between tone patches with this parameter.

```
S I A—1   V o i c e  A h h
VOLUME    = 1 0 0
```

Note: The parameter D -1 LEVEL adjusts the relative balance between the SOURCEs used in the tone patch.

Value	Effect
1	Minimum
⁞	⁞
100	Maximum

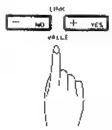
EDIT -2 NAME

Assigns a 10-character name for the tone patch.
This name may mix any of the following 96 characters.

Procedure:

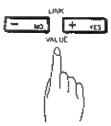
① Use the +YES / -NO switches to modify the current character.

```
S I A—1   V o i c e  A h h
NAME      = V
```



② Press the EDIT key to move from character to character.

```
S I A—1   V o i c e  A h h
NAME      = o
```



③ Repeat the above steps as often as necessary.

Valid name characters

```
■ ! " # $ % & ' ( ) * + , — . /
0 1 2 3 4 5 6 7 8 9
: ; < = > ? @
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
[ ¥ ] ^ — `
a b c d e f g h i j k l m n o p q r s t u v w x y z
{ | } → ←
```

(2) Group A — COMMON

The parameters in this group affect all four SOURCEs equally.

A -1 SOURCE

Determines whether the tone patch uses all four SOURCEs or only two. Choosing the former makes the K1r an eight-voice polyphonic instrument —that is, limited to sounding a maximum of eight notes at a time; the latter makes it sixteen-voice polyphonic.

```
COMMON              P V - P
SOURCES   2 / 4 =     4
```

Note: Sources 3 and 4 are not available when this parameter is set to 2.

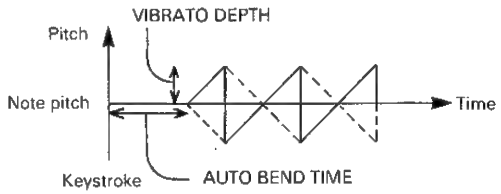
Muting Sources 3 and 4 is not the same as changing this parameter to 2. The unit remains eight-voice polyphonic.

Value	Effect
2	The unit uses only SOURCES 1 and 2.
4	The unit uses all four SOURCEs.

A -2 VIBRATO DEPTH

Determines the amount by which the vibrato effect alters the pitch above and below the note pitch.

VIBRATO SPEED	PV-P =±50



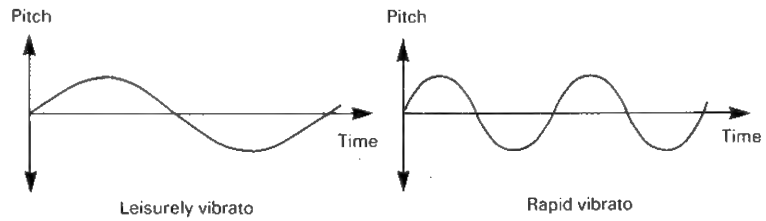
Value	Effect
+50	Maximum vibrato with normal waveform
/	/
0	No vibrato
/	/
−50	Maximum vibrato with inverted waveform

Note: B -4 VIBRATO/AUTO BEND determines whether the individual SOURCEs use the vibrato effect. A -8 VIBRATO/AUTO BEND TIME determines the delay before the start of the vibrato effect.

A -3 VIBRATO SPEED

Determines the vibrato rate.

VIBRATO SPEED	PV-P =100

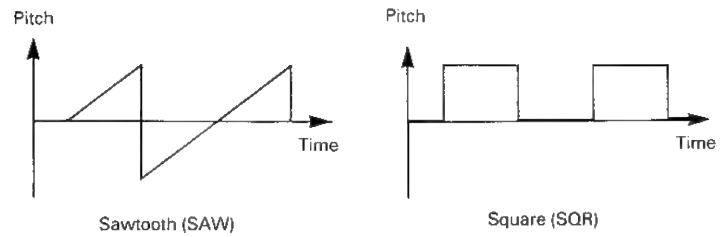


Value	Effect
0	Leisurely vibrato
/	/
100	Rapid vibrato

A -4 VIBRATO SHAPE

Determines the waveform for the vibrato effect.

VIBRATO SHAPE	PV-P =SAW



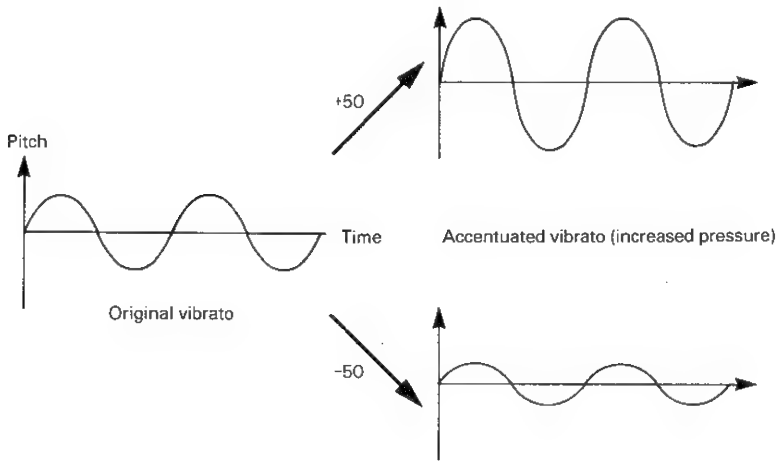
Value	SHAPE	
TRI		Triangle
SAW		Sawtooth
SQR		Square
RND	Random variation	

A -5 PRS VIBRATO

Links the amount of vibrato to aftertouch, the amount of pressure on the key.

VIBRATO PRS→DEPTH	PV-P =±50

Value	Effect of increasing pressure
+50	Increased vibrato
⌇	⌇
0	No effect
⌇	⌇
−50	Decreased vibrato



Note: This effect is only available with keyboards that transmit aftertouch data.

A -6 WHEEL VIBRATO ASSIGN

Determines whether the MODULATION wheel controls vibrato depth or speed.

VIBRATO WHEEL	PV-P =DEP

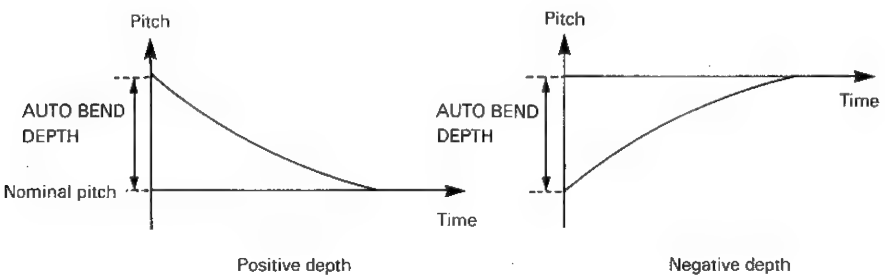
Value	Effect
DEP	Depth (amplitude)
SPD	Speed (rate)

A -7 AUTO BEND DEPTH

Determines how the pitch alters as each key is struck — the AUTO BEND effect.

AUTO BEND DEPTH	PV-P =±50

Value	Effect
+50	Pitch drops to nominal value
⌇	⌇
0	No effect
⌇	⌇
−50	Pitch rises to nominal value



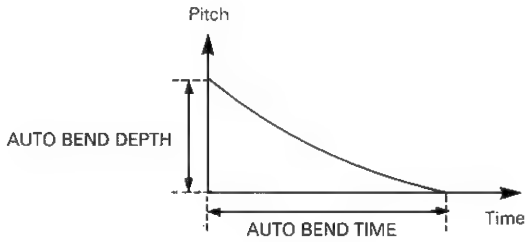
Note: B -4 VIBRATO/AUTO BEND determines whether the individual SOURCEs use this effect.

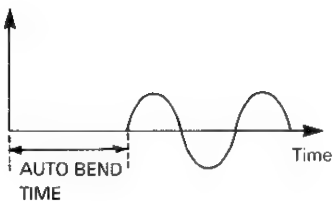
A -8 AUTO BEND TIME

Determines the time for the automatic bend function (A -7 above) and the delay before the start of the vibrato effect (A -2 above).

AUTO BEND TIME	PV-P = 100

Value	Effect
0	No effect
⌇	⌇
100	Maximum period



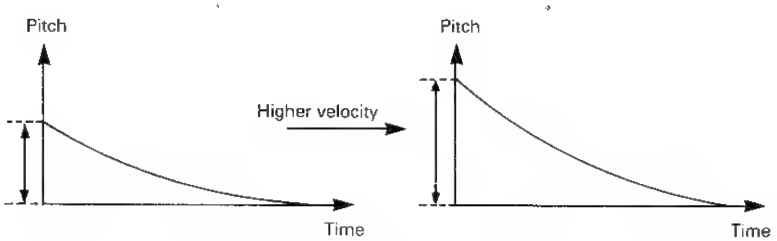


A -9 AUTO BEND VEL DEP

Uses D -7 VEL CURVE to link the depth of the AUTO BEND effect to key velocity.

AUTO BEND VEL→DEPTH	PV-P = ±50

Value	Effect
+50	Depth increases with velocity
⌇	⌇
0	No effect
⌇	⌇
−50	Depth decreases with velocity



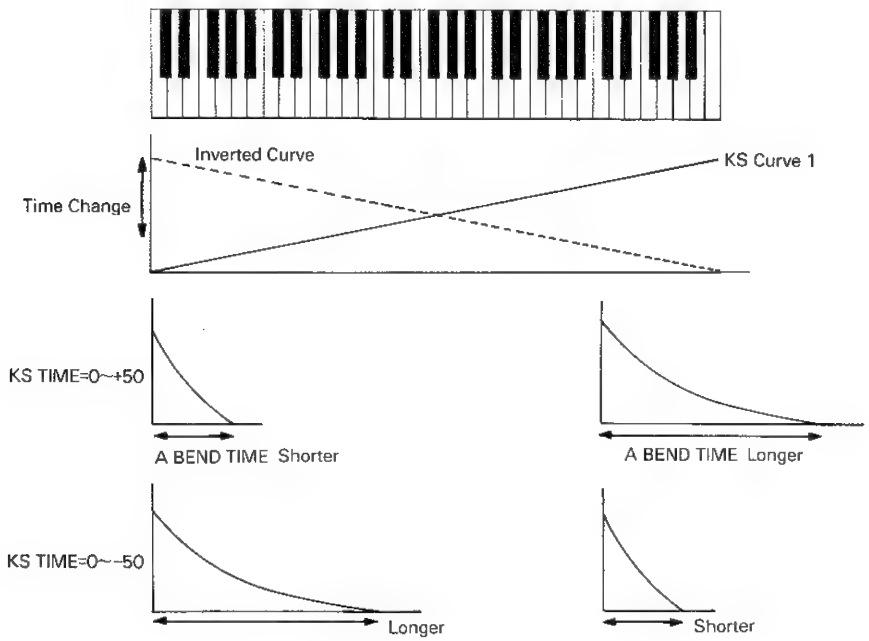
(For positive depth)

A -10 AUTO BEND KS-TIME

Uses A -13 KS CURVE to link the AUTO BEND time to key position.

```
AUTO BEND        PV-P
KS→TIME          =±50
```

Value	Effect
+50	Maximum effect with normal KS curve
⌇	⌇
0	No effect
⌇	⌇
-50	Maximum effect with inverted KS curve



A -11 PRS FREQ

Links key frequency (pitch) to aftertouch, the amount of pressure on the key.

Note: This effect is only available with keyboards that transmit aftertouch data, such as the K1.

B -5 PRS FREQ determines whether the individual SOURCEs use this effect.

```
COMMON           PV-P
PRS→FREQ         =±50
```

Value	Effect
+50	Pitch increases with pressure.
⌇	⌇
0	No effect
⌇	⌇
-50	Pitch decreases with pressure.

A -12 PITCH BEND

Determines the PITCH BEND wheel range in semitones.

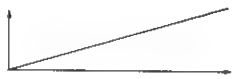
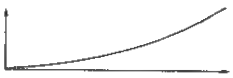
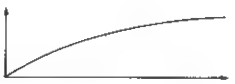
```
COMMON           PV-P
PITCH BEND       = 12
```

Value	Effect
0	No effect
⌇	⌇
12	Range of one octave

A -13 KS CURVE

Determines the shape of the keyboard scaling curve, a curve that other parameters use to make volume, note length, pitch, and other variables a function of key position.

```
COMMON          PV-P
KS CURVE    =    5
```

Value	Effect
	
1	
2	
3	
4	
5	

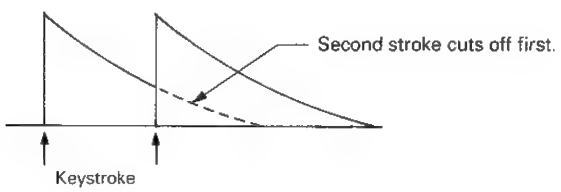
A -14 POLY MODE

Selects the voice assignment mode.

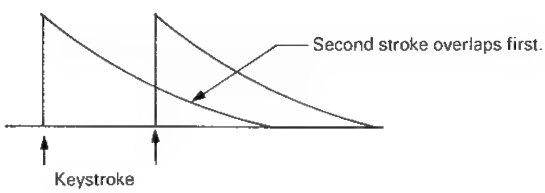
```
COMMON          PV-P
POLY MODE   =PL2
```

Value	Effect
PL1	Second stroke cancels first.
PL2	Second stroke overlaps first.
SOLO	One note at a time

POLY 1 — Striking the key a second time cuts off the previous note.



POLY 2 — The first note continues to die out even after the key is struck a second time.



SOLO — The keyboard sounds only one note at a time.

Note: If you hold down one key and strike another, the second note will replace the first, but the first note will reappear when you release the second key.

(3) Group B — FREQUENCY

The parameters in this group determine the pitch.

B -1 COARSE

Determines the relative pitch of the SOURCE in semitones when B -3 KEY TRACK is ON.

Value	Effect
+24	Two octaves higher
↑	↑
0	Normal pitch
↓	↓
−24	Two octaves lower

B -1 FIXED KEY

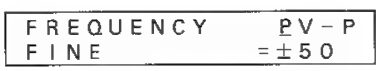
Determines the pitch used when B -3 KEY TRACK is OFF.

Note: When B -3 KEY TRACK is ON, COARSE appears; when it is OFF, FIXED KEY appears.

Value	C-4 ~ G6

B -2 FINE

Provides precise pitch adjustment.



Value	Effect
+50	1 semitone higher
↑	↑
0	Normal pitch
↓	↓
−50	1 semitone lower

B -3 KEY TRACK

Switches tracking function on and off. When tracking is ON, each key produces a note of a different pitch. When it is OFF, all keys produce the same note, the one selected by B -1 FIXED KEY.

Value	Effect
ON	Normal keyboard pitch
OFF	Monotone pitch

B -4 VIBRATO/AUTO BEND

Switches the vibrato and AUTO-BEND functions defined with parameters A -2 through A -10 on and off for the individual SOURCEs.

```
FREQ MOD        PV-P
VIB/A.BEND      =OFF
```

Value	Effect
ON	Vibrato and AUTO-BEND on
OFF	Vibrato and AUTO-BEND off

B -5 PRS-FREQ

Switches the pressure-frequency link defined with parameter A -11 on and off for the individual SOURCEs.

```
FREQ MOD        PV-P
PRS→FREQ        = ON
```

Value	Effect
ON	Pressure-frequency on
OFF	Pressure-frequency off

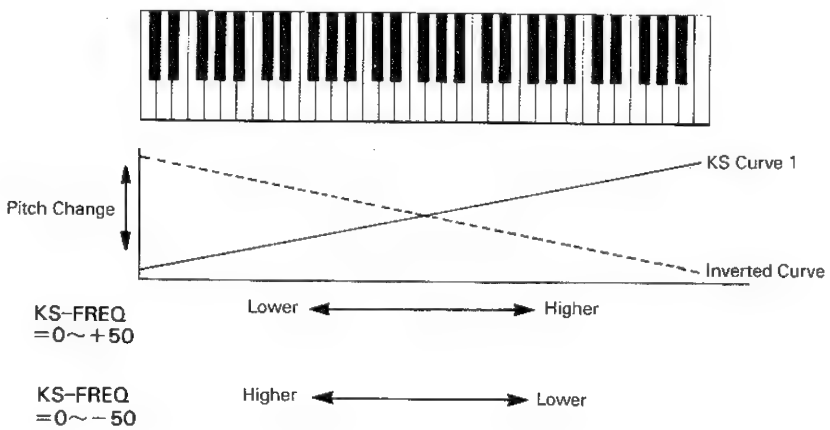
B -6 KS-FREQ

Adjusts the pitch according to the keyboard scaling curve selected by A -13.

```
FREQ MOD        PV-P
KS→FREQ         =±50
```

Value	Effect
+50	Maximum effect with normal KS curve
⋮	⋮
0	No effect
⋮	⋮
-50	Maximum effect with inverted KS curve

Example



(4) Group C — WAVE

The parameters in this group determine the waveform.

WAVE SELECT	PV-P = 256

Value	Waveform
1–204	VM waveform
205~256	PCM waveform

C -1 WAVE SELECT

Determines the waveforms for the individual SOURCEs.

Note: You may select any four from the 52 PCM waveforms and 204 VM waveforms available on the K1r. (See the Wave List)

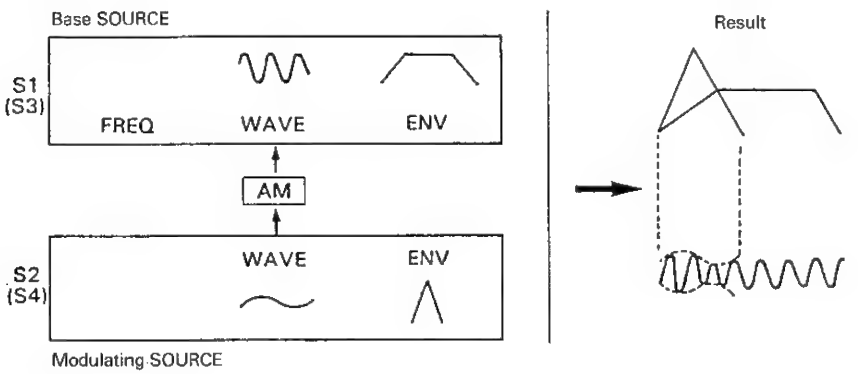
C -2/ C -3 AM (Ring Modulation)

Uses one SOURCE to modulate the output from another. (See illustration.) This type of modulation produces overloaded sounds that are difficult to produce with harmonic synthesis alone.

Note: The size of the effect depends on the ENV LEVEL for the modulating SOURCE.

AM S1 . S2	PV-P = 1→2

Value	Effect
OFF	No AM. (Both SOURCEs sound.)
1→2	SOURCE 1 modulates SOURCE 2
2→1	SOURCE 2 modulates SOURCE 1



AM S3 . S4	PV-P = 4→3

Value	Effect
OFF	No AM. (Both SOURCEs sound.)
3→4	SOURCE 3 modulates SOURCE 4
4→3	SOURCE 4 modulates SOURCE 3

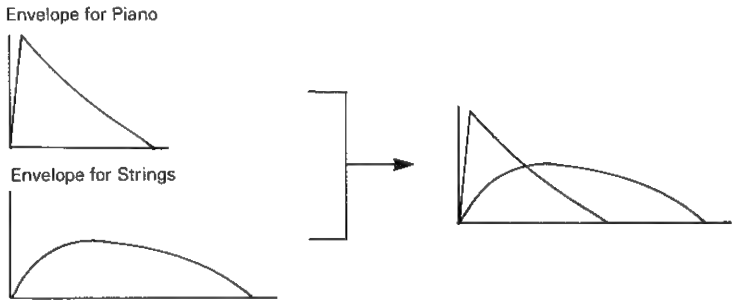
Note: Even if the base SOURCE is muted, it will still sound if the envelope for the modulating SOURCE is large enough.

C -4 COPY FROM

```
COPY                PV-P
FROM  SINGLE=1A—8
```

Copies a block of data (FREQ, WAVE, or ENV) for a SOURCE in the current tone patch to a SOURCE in another tone patch.

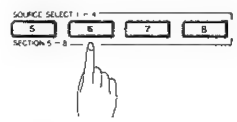
Note: This function is useful for mixing parameters from, for example, a PIANO tone patch and a STRINGS tone patch.



Procedure:

① Use the number switches (5-8) to select the SOURCE number for the destination.

```
COPY                PV-P
FROM  SINGLE=1A—8
```



② Use the [+YES] / [–NO] switches to select the tone patch number for the SOURCE to be copied.

```
COPY                PV-P
FROM  SINGLE=eA—6
```

③ Press the [C] switch to change to the SOURCE display.

```
COPY                PV-P
FROM  SOURCE=S4
```

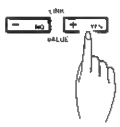
④ Use the [+YES] / [–NO] switches to select the SOURCE to be copied.

```
COPY                PV-P
FROM  SOURCE=S1
```

⑤ Press the [C] switch to change to the confirmation display.

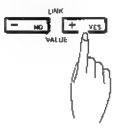
```
COPY
FROM   EXEC?=←  →
```

⑥ Press the [+YES] switch to proceed.



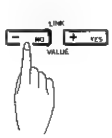
```
COPY
FROM   SURE?=←  →
```

⑦ Press the [+YES] switch to complete.



```
                COMPLETED!
```

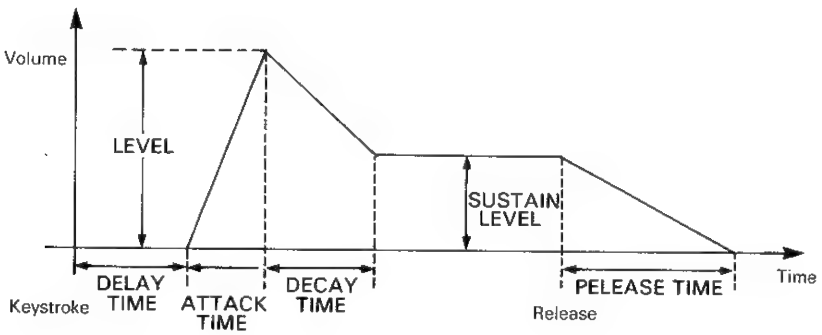
Press the [–NO] switch to cancel.



```
                CANCELED!
```

(5) Group D — ENVELOPE

The parameters in this group determine the envelope, the way the volume of a sound changes with time. For example, a note on a piano begins to fade immediately after you strike it, but one on an organ stays at the same volume until you release the key. The graph below defines the five phases of the envelope.



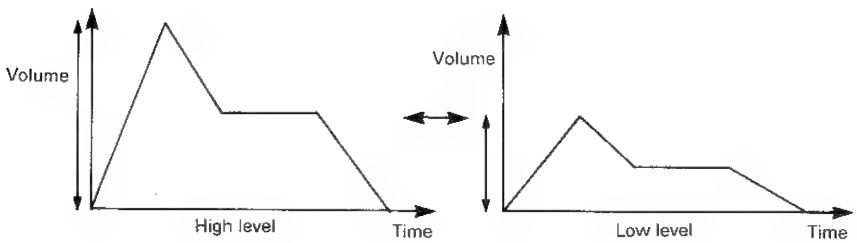
D -1 LEVEL

Determines the overall envelope volume.

Note: These settings affect the balance between individual SOURCEs and the size of the amplitude modulation effect.

ENVELOPE LEVEL	PV-P =100

Value	Effect
0	No output (mute)
/	/
100	Maximum level

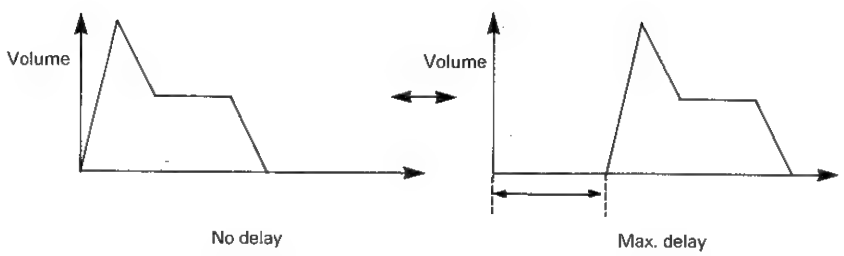


D -2 DELAY

Determines the time that elapses before the keystroke begins producing a sound.

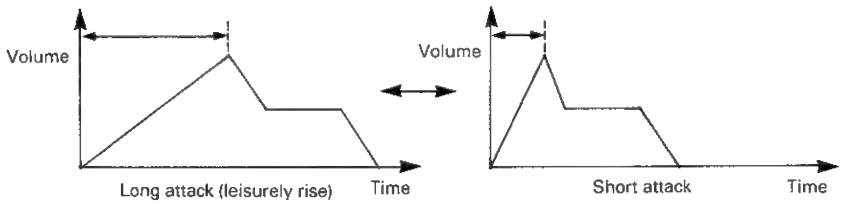
ENVELOPE DELAY	PV-P =100

Value	Effect
0	0
/	/
100	Max. delay



D -3 ATTACK

Determines the time that the sound takes to peak.

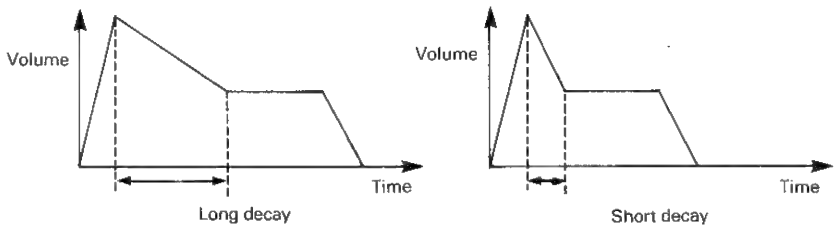


ENVELOPE ATTACK	PV-P =100

Value	Effect
0	Short attack (instantaneous rise)
↕	↕
100	Long attack (leisurely rise)

D -4 DECAY

Determines the time that the sound takes to fall from the peak to the SUSTAIN level.

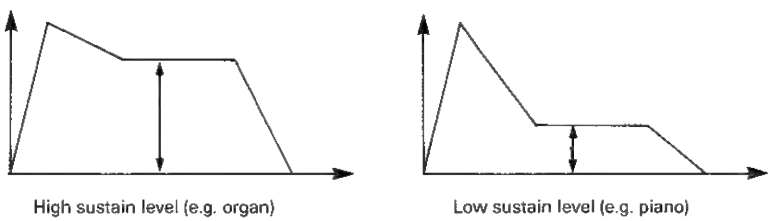


ENVELOPE DECAY	PV-P =100

Value	Effect
0	Instantaneous drop
↕	↕
100	Gradual drop

D -5 SUSTAIN

Determines, relative to the peak, the volume when the key is held down.

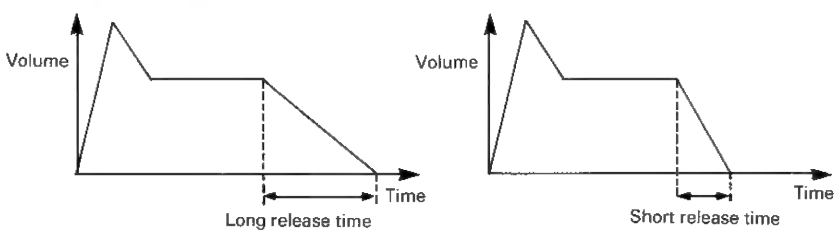


ENVELOPE SUSTAIN	PV-P =100

Value	Volume
0	No sustain (mute)
↕	↕
100	Max. sustain

D -6 RELEASE

Determines the time the sound takes to die out after the key is released.

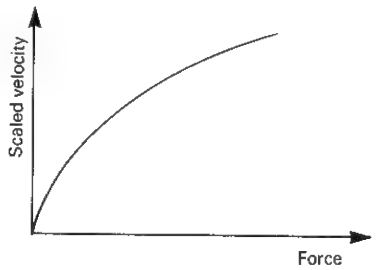


ENVELOPE RELEASE	PV-P =100

Value	Effect
0	Sound dies instantly after release.
↕	↕
100	Sound gradually dies out.

D -7 VEL CURVE

Determines the curve that D -8 VEL ENV LEVEL and D -11 VEL ENV TIME use to adjust the overall volume and length, respectively, of the envelope for velocity, the initial force on the key.



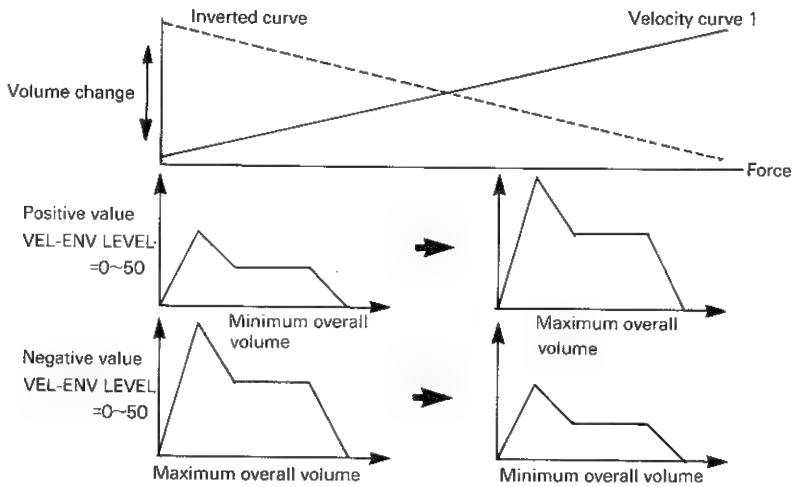
VELOCITY CURVE	PV-P = 8

Value	Curve	Value	Curve
1		5	
2		6	
3		7	
4		8	

D -8 VEL-ENV LEVEL

Uses D -7 VEL CURVE to adjust the overall volume of the envelope.

Example: Velocity curve 1



LEVEL MOD VEL	PV-P = ±50

Value	Effect
+50	Maximum effect
⌇	⌇
0	No effect
⌇	⌇
–50	Maximum effect with inverted velocity curve

D -9 PRS ENV LEVEL

Links the overall volume to aftertouch, the amount of pressure on the key.

Note: This effect is only available with keyboards that transmit aftertouch data, such as K1.

LEVEL MOD PRS	PV-P = ±50

Value	Effect
+50	Maximum effect
⌇	⌇
0	No effect
⌇	⌇
–50	Maximum effect, but volume decreases with aftertouch

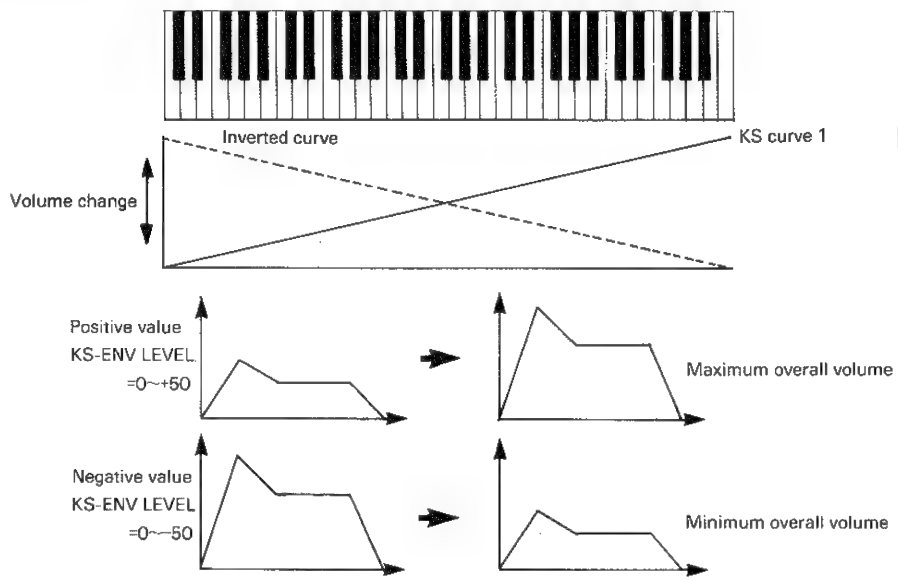
D -10 KS-ENV LEVEL

Uses A -13 KS CURVE to link the overall volume to key position.

LEVEL MOD	PV-P
KS	=±50

Value	Effect
+50	Maximum effect with normal KS curve
⌇	⌇
0	No effect
⌇	⌇
–50	Maximum effect with inverted KS curve

Example: KS curve 1



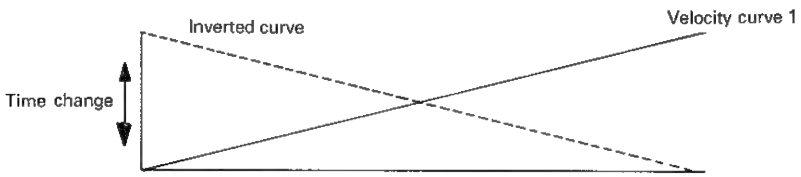
D -11 VEL-ENV TIME

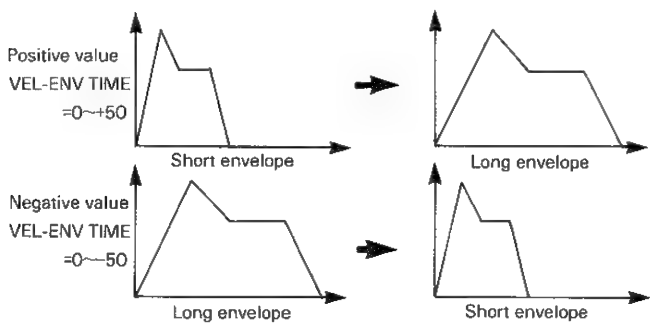
Uses D -7 VEL CURVE to link the attack time to velocity.

TIME MOD	PV-P
VEL	=±50

Value	Effect
+50	Maximum effect with normal velocity curve
⌇	⌇
0	No effect
⌇	⌇
–50	Maximum effect with inverted velocity curve

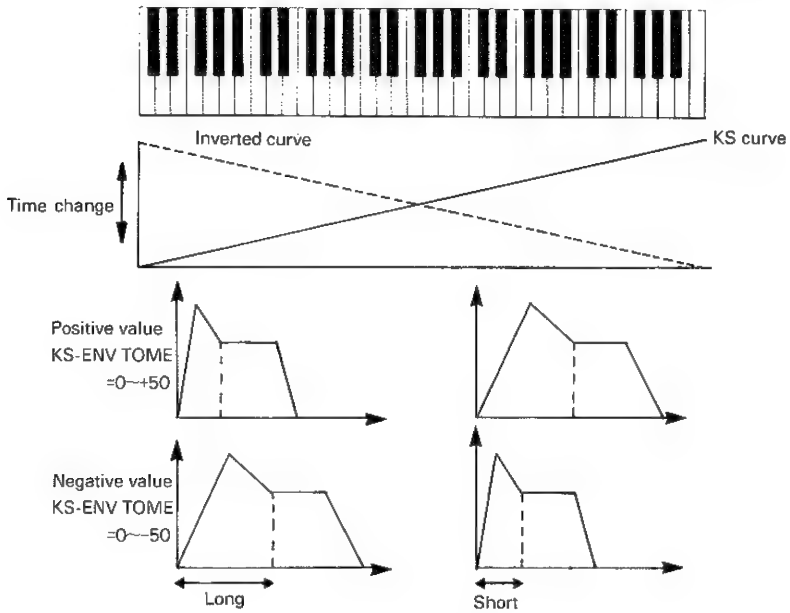
Example: Velocity curve 1





D -12 KS-ENV TIME

Uses A -13 KS CURVE to link the attack and decay time to key position.



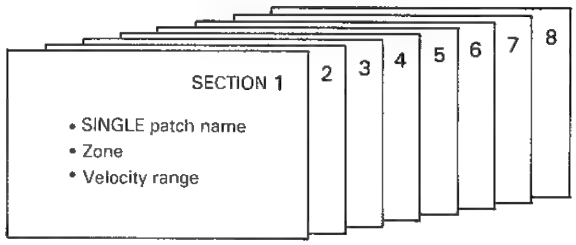
TIME MOD PV-P KS =±50

Value	Effect
+50	Maximum effect with normal KS curve
↕	↕
0	No effect
↕	↕
-50	Maximum effect with inverted KS curve

4. Editing MULTI Patches

(1) Basic approach

Each K1r MULTI Patch consists of from one to eight SECTIONs, each consisting of a SINGLE patch with additional control information. Because it would take too much time to construct a tone patch completely from scratch, the usual approach is to select the closest MULTI patch and then edit it.



(2) Procedure

① In the PLAY mode, select the MULTI patch that best approximates the desired sound.

② Press the [EDIT] switch.

③ Select the parameter to be edited.

or [EDIT]

```
MULTI
I A—1          SYMPHONY
```

```
M I A—1        SYMPHONY
VOLUME           =100
```

```
TRANS      2165 4 – 3815
                 =±24
```

(3) Edit display

The EDIT display provides five different types of information.

```
Parameter name        1 2 3 4 5 6 7 8   ← SECTIONs
SINGLE patch name  =  Value
```

* Parameter name — This indicates the parameter being edited. Change with the letter switches (A, B, C, or D).

* Parameter value — This gives the parameter value for the SECTION indicated by the cursor. Change with the [+YES] / [–NO] switches.

* Sections — These indicate the current status of the eight possible SECTIONs. A number (1-16) indicates the SECTION's MIDI receive channel and "—" tells that the number of the SECTION's polyphonic voices is 0.

* Cursor — This underline tells which SECTION is being edited. Use the SOURCE SELECT switches (numbers 1-8) to change SECTIONs.

* SINGLE patch name — This gives the name of the SINGLE patch currently assigned to this SECTION.

5. MULTI Patch Parameters

(1) EDIT switch

There are two parameters that you can edit before proceeding to the ones grouped under the letter switches (A, B, C, and D):

EDIT -1 VOLUME

Determines the volume for the MULTI patch.
Normally, this should be the maximum (100), but it may be necessary to adjust the balance between MULTI patches with this parameter.

Note: The parameter D -4 LEVEL adjusts the relative balance between the SECTIONs used in the tone patch.

```
M I A—1      SYMPHONY
VOLUME         =100
```

Value	Effect
1	Minimum
⁞	⁞
100	Maximum

EDIT -2 NAME

Assigns a 10-character name for the tone patch.
This name may mix any of the 96 characters.

```
M I A—1      SYMPHONY
NAME           =S
```

The procedure is the same as that for SINGLE patch. (See p.16.)

(2) Group A — WINDOW 1

This group assigns the SINGLE patches to SECTIONs.

A -1 SINGLE ASSIGN

Determines the SINGLE patches for each SECTION.

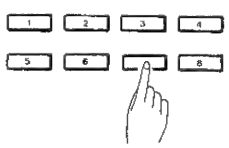
```
SINGLE    2165 4 - 3 815
Str Ens        =IA—8
```

Note: The K1r will not allow you to mix internal (I/i) and external (E/e) tone patches. You cannot use an internal SINGLE patch in an external MULTI patch or an external SINGLE patch in an internal MULTI patch, for example.

The MULTI patch remembers only the tone patch number and not tone patch contents. Editing a SINGLE patch will therefore automatically affect all MULTI patches using it as well.

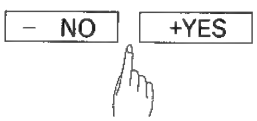
Procedure:

① Select SECTION



```
SINGLE    2165 4 - 3 8 15
Str Ens        =IA—1
```

② Select the SINGLE patch to be assigned.




```
SINGLE    2165 4 - 3 815
Orchestra      =IA—5
```

Group B — WINDOW 2

The parameters in this group determine the keyboard zone for the SECTION.

B -1 ZONE LO

Determines the lower limit (between C-2 and G8) for the SECTION.

```
ZONE LO   2165 4 - 3 815
Voice Ahh      =C#—2
```

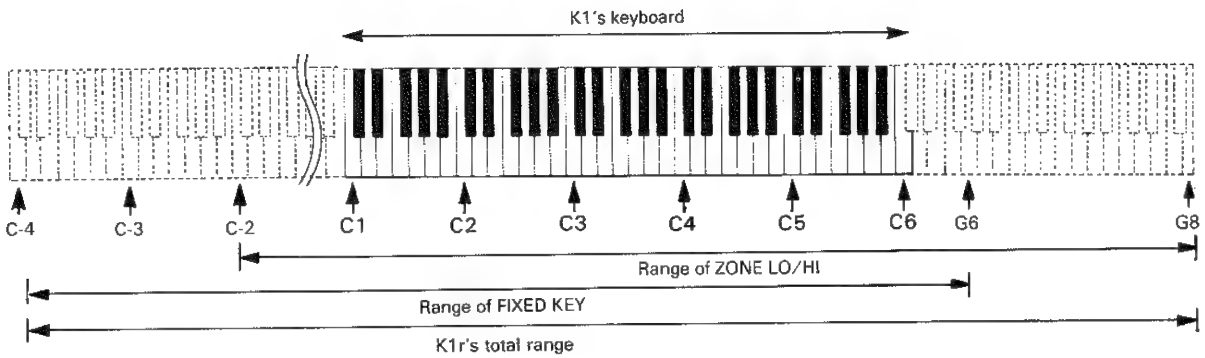
B -2 ZONE HI

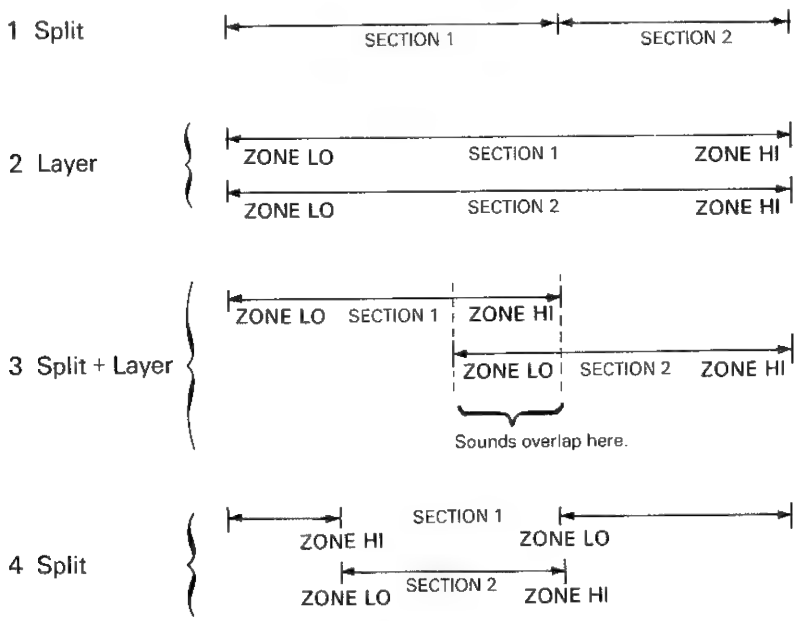
Determines the upper limit (between C-2 and G8) for the SECTION.

```
ZONE HI  2165 4 - 3815
Voice Ahh    =G  3
```

Note: The above two parameters serve to divide the K1r's effective keyboard range into zones.

Examples:



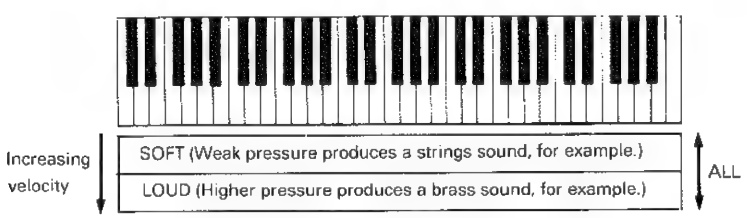


B -3 VELOCITY SW

Determines how the SECTION reacts to changes in key velocity.

```
VEL SW   2164 - 4 1 815
Mellow EP    =LOUD
```

Value	Effect
ALL	All strikes produce a sound.
SOFT	Only weak strike produces a sound.
LOUD	Only hard strike produces a sound.



(4) Group C — WINDOW 3

The parameters in this group determine the number of polyphonic voices and the MIDI channel assignments.

C -1 POLY

Determines the maximum number of polyphonic voices available for each SECTION. This can be a number, 0-8, or VR (variable). In the latter case, the K1r automatically redistributes voices that are not in use.

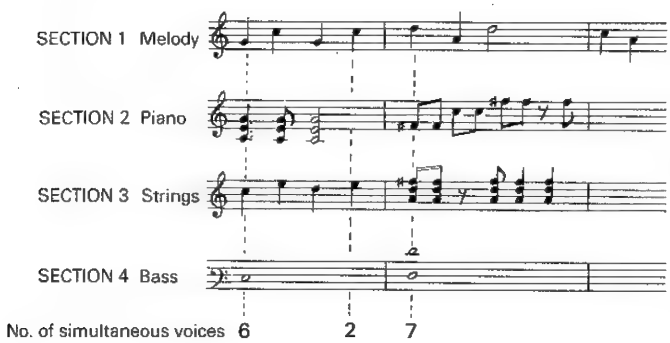
Note: The K1r assigns priority to the most recently struck keys.

The VR setting introduces greater flexibility when the K1r is driven by a sequencer, computer, or similar device.

```
POLY      2165 4 - 3 815
Str  Ens      =  VR
```

Value	Effect
0	None (mute)
1~8	Limit
VR	Variable (All available)

Example:



Consider the following four-part segment. Taken separately, the SECTIONs seem to require 1+3+3+2=9 voices, one more than the eight available. A closer look, however, reveals that the maximum number of notes at any given time is only seven.
Since the second and third SECTIONs do not simultaneously require three voices each, they can share. (Alternatively, since the maximum is within the limit, all four SECTIONs can be made variable.)

SECTION	Max.	Option 1	Option 2
1	1	1	VR
2	3	VR	VR
3	3	VR	VR
4	2	2	VR

C -2 RCV CH

Assigns MIDI receive channels to SECTIONs so that a sequencer or other external device can use the K1r as up to eight different MIDI sound sources.

Note: The channel numbers appear in the upper right corner of the display.

```
RCV  CH   2165 4 - 3 815
Str  Ens      =    5
```

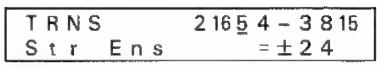
Value	Effect
1	MIDI receive channel number 1
⁞	⁞
16	MIDI receive channel number 16

(5) Group D — WINDOW 4

The parameters in this group affect SECTION pitch and level.

D -1 TRANSPOSE

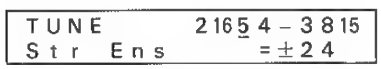
Shifts SECTION pitch up or down in increments of a semitone. Combining a SECTION with normal pitch (value=0) with one transposed up 7 or 12 semitones, for example, creates a perfect fifth or octave, respectively.



Value	Effect
+24	Two octaves higher
↕	↕
0	Standard pitch
↕	↕
-24	Two octaves lower

D -2 TUNE

Shifts SECTION pitch up or down by small amounts.
Combining SECTIONs with slightly different pitches adds depth to the sound.

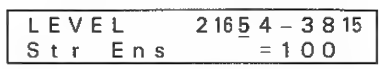


Value	Effect
+50	Semitone higher
↕	↕
0	Standard pitch
↕	↕
-50	Semitone lower

D -3 LEVEL

Determines the relative volume for each SECTION.

Note: If the value is zero, the SECTION's portion of the upper right corner of the display changes to a dash (–).

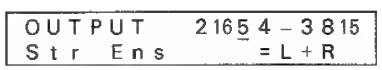


Value	Effect
0	Min. (mute)
↕	↕
100	Max.

D -4 OUTPUT

Determines whether the SECTION output goes to the left channel, right channel, or both. This function allows the routing of specific SECTIONs to a reverberator or other effect.

Note: If there is only one keyboard amplifier, connect it to the R/MONO jack. The K1r will then mix both channels to produce a monaural output.



Value	Effect
R	Right channel
L+R	Both channels
L	Left channel

IV. WRITE — Storing Edited Tone Patches

1. Definition

When you edit a tone patch, you work with a temporary copy that disappears when you turn off the power. If you wish to save the tone patch for later use, you must store it in the K1r's internal memory or on a DC-8 memory card with the WRITE function.
It is also possible to copy a tone patch from one location to another and to copy all tone patches from the internal memory to a card (SAVE) or in the opposite direction (LOAD). (See p.38, 39.)

Note: Copying data from one location to another involves erasing all data that was formerly at the destination. One way to avoid accidentally erasing valuable data is to keep backup copies on cards.

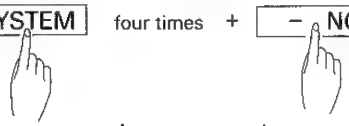
2. Procedure

To store the tone patch that you are currently editing:

① Disable the WRITE PROTECT function.

For an internal tone patch, press the [SYSTEM] switch four times and the [–NO] switch once. (See p.41.)

[SYSTEM] four times + [– NO]

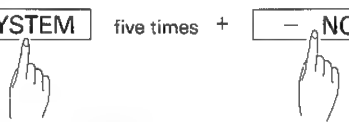


```
SYSTEM
INT  PROTECT=ON
```

```
SYSTEM
INT  PROTECT=OFF
```

For an external tone patch, press the [SYSTEM] switch five times and the [–NO] switch once. (See p.41.)

[SYSTEM] five times + [– NO]



```
CARD
     PROTECT=ON
```

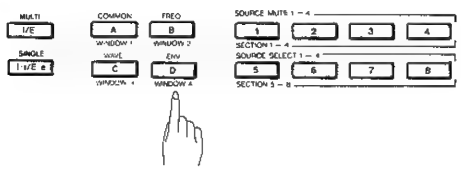
```
CARD
     PROTECT=OFF
```

② Press the [WRITE] switch.

[WRITE]

```
WRITE   MEA—8
TO      EXEC?  =←  →
```

③ Select the destination.



```
WRITE   MIB—1
TO      EXEC?  =←  →
```

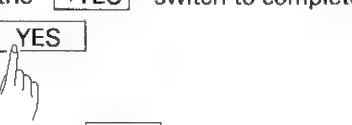
④ Press the [+YES] switch to display the **SURE?** prompt.

[+YES]

```
WRITE   MIB—1
TO      SURE?  =←  →
```

⑤ Press the [+YES] switch to complete.

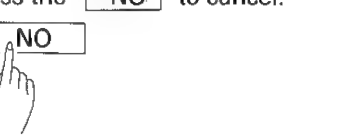
[+ YES]



```
          COMPLETED!
```

Or press the [–NO] to cancel.

[– NO]



```
          CANCELED!
```

V. LINK Function

1. Definition

The LINK function allows you to link up to eight tone patches — SINGLE or MULTI, INTERNAL or EXTERNAL — from the 192 available and then step through the series during a performance simply by pressing the LINK switches.

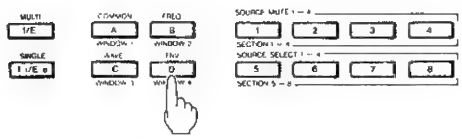
2. Procedure

① Press the WRITE switch twice.

Two times

```
LINK      SIA—8
1ST
```

② Select a tone patch of the series.



```
LINK      SID—7
1ST
```

③ Press the WRITE switch and go back to Step2 to select the next tone patch in the series.


```
LINK      MIB—2
2ND
```

④ Repeat steps ② and ③ another seven times.

Note: If there are fewer than eight tone patches in the series, press the – NO switch at step 2 to terminate.

```
LINK      OFF
5TH
```

VI. SYSTEM — System and MIDI Parameters

1. SYSTEM Parameters

Pressing the [SYSTEM] switch activates the K1r's [SYSTEM] mode. Subsequent presses then cycle through the parameters, the values of which may be changed with the [+YES] / [−NO] switches.

```
SYSTEM/MIDI
                =SYS
```

[SYSTEM] -2 TUNE

Adjusts the K1r's master tuning.

```
SYSTEM
TUNE            =±50
```

Value	Effect
+50	Semitone higher
⌇	⌇
0	Normal pitch
⌇	⌇
−50	Semitone lower

[SYSTEM] -3 TRANSPOSE

Shifts the pitch of all notes up or down in increments of a semitone.

```
SYSTEM
TRANSPOSE     =±12
```

Value	Effect
+12	One octave higher
⌇	⌇
0	Normal pitch
⌇	⌇
−12	One octave lower

[SYSTEM] -4 INT PROTECT

Controls the WRITE PROTECT function for the K1r's internal memory. It must be OFF for a LOAD operation.

```
SYSTEM
INT PROTECT= ON
```

[SYSTEM] -5 CARD PROTECT

Controls the WRITE PROTECT function for the memory card.

```
CARD
     PROTECT= ON
```

Note: You should normally keep the preceding two parameters ON to prevent accidental erasure of valuable data.

[SYSTEM] -6 CARD FORMAT

Prepares a DC-8 memory card (option) for the first use with the K1r.

Note: Proceed with caution. This procedure erases any data that may be on the card.

Procedure:

① Insert the card in the slot.

② Press the [+YES] switch to proceed to the **SURE?** prompt

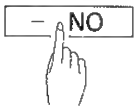

```
CARD FORMAT
     EXEC?=←  →
```

```
CARD FORMAT
     SURE?=←  →
```

③ Press the [+YES] switch to complete the operation.

COMPLETED!

Or press the [–NO] to cancel



CANCELED!

[SYSTEM]-7 SAVE

Copies all data from the internal memory to a card.
Set [SYSTEM] -5 CARD PROTECT to OFF beforehand.

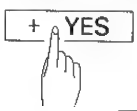
Note: Proceed with caution. This procedure erases any data that may be on the card.

Procedure:

① Insert the card in the slot.

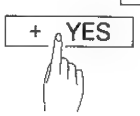
SAVE
EXEC? ← →

② Press the [+YES] switch to proceed from the EXEC? prompt to the SURE? prompt.



SAVE
SURE? ← →

③ Press the [+YES] switch to complete the operation.



COMPLETED!

or press the [–NO] switch to cancel.

CANCELED!

[SYSTEM]-8 LOAD

Copies all data from a card to the internal memory.
Set [SYSTEM] -4 INT PROTECT to OFF beforehand.

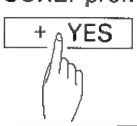
Note: Proceed with caution. This procedure erases any data that may be on the card.

Procedure:

① Insert the card in the slot.

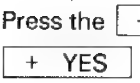
LOAD
EXEC? ← →

② Press the [+YES] switch to proceed from the EXEC? prompt to the SURE? prompt.



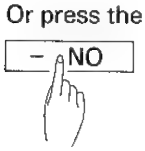
LOAD
SURE? ← →

③ Press the [+YES] switch to complete the operation.



COMPLETED!

Or press the [–NO] switch to cancel.



CANCELED!

2. MIDI Transmission Parameters

Press the [SYSTEM] switch and then use the [+YES] / [–NO] switches to change from SYS to TRS. Subsequent presses of the [SYSTEM] switch then cycle through the parameters, the value of which may be changed with the [+YES] / [–NO] switches.

```
SYSTEM/MIDI
                =SYS
```

[SYSTEM] TRS-2 TRS CH

Determines the MIDI channel (1-16) on which the K1r transmits MIDI data.

```
SYSTEM/MIDI
                =TRS
MIDI
TRS   CH      = 16
```

[SYSTEM] TRS-3 PGM

Determines whether the K1r transmits program change data.

```
MIDI
TRS   PGM     = ON
```

[SYSTEM] TRS-4 DATA DUMP

Transmits tone patch data from the K1r to another K1/K1m/K1r — either one tone patch at a time or as one block consisting of 32 tone patches.

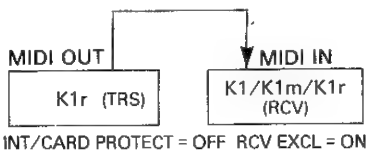
```
MIDI      MIA—8
DUMP   EXEC?=←  →
```

Value	Effect
PACH	One tone patch is transmitted at a time.
BLOK	One block is transmitted at a time

Procedure:

① Connect the two units as shown.

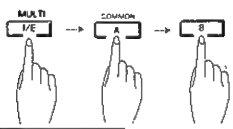
On the receiving unit, set [SYS] -4 INT PROTECT to OFF and [RCV] -11 EXCL to ON beforehand.



INT/CARD PROTECT = OFF RCV EXCL = ON

② Select the tone patch or block to send.

Example

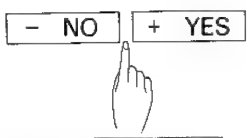



```
MULTI
IA—8    MARCH BAND
```

③ Press the [SYSTEM] switch and shift to the DATA DUMP display.

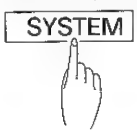
```
MIDI      MIA—8
DATA   DUMP =BLOK
```

④ Use the [+YES] / [–NO] switches to select PACH or BLOCK.




```
MIDI      MIA—8
DATA   DUMP =PACH
```

⑤ Press the [SYSTEM] switch to display the **EXEC?** prompt.

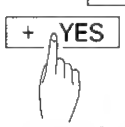



```
MIDI      MIA—8
DATA   EXEC?=←  →
```

⑥ Press the [+YES] switch to proceed to the **SURE?** prompt.

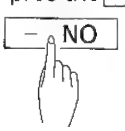

```
MIDI      MIA—8
DATA   SURE?=←  →
```

⑦ Press the [+YES] switch to complete the dump.




```
COMPLETED!
```

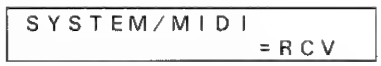
Or pres the [–NO] switch to cancel.




```
CANCELED!
```

3. MIDI Receive Parameters

Press the [SYSTEM] switch and then use the [+YES] / [–NO] switches to change from SYS to RCV. Subsequent presses of the [SYSTEM] switch then cycle through the parameters, the value of which may be changed with the [+YES] / [–NO] switches.



[SYSTEM] RCV-2 RCV CH

Determines the MIDI channel (1-16) on which the K1r receives.

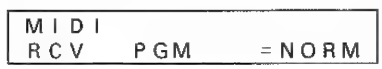
Note: The SECTIONs in a MULTI patch receive on independent channels.

[SYSTEM] RCV-3 OMNI ON/OFF

Determines whether the K1r monitors all MIDI channels.

[SYSTEM] RCV-4 PGM

Determines how the K1r acts on program change data.



There are four possibilities: (See accompanying chart.)

OFF	The synthesizer ignores all incoming program change commands.
NORM (Normal)	A program change command between 0 and 63 changes the synthesizer to a SINGLE patch; one between 64 and 127, to a MULTI patch.
SECT (Section)	A program change command between 0 and 63 changes the SINGLE patch for the SECTION with the same MIDI channel; one between 64 and 127, changes to a MULTI patch.
LINK	A program change command changes the synthesizer to the next tone patch in the series.

Note: For NORM and SECT, the synthesizer chooses the same bank (INT/EXT) as the patch currently on the display.

Value PGM No.	OFF	NORM		SECT		LINK	Transmitting	
		INT	EXT	INT	EXT	LINK	INT	EXT
0—31	Nothing recognized	SIA-1 ~SID-8	SEA-1 ~SED-8	SIA-1 ~SID-8	SEA-1 ~SED-8	No.1—No.8	SIA-1 ~SID-8	SEA-1 ~SED-8
32—63	Nothing recognized	SiA-1 ~SiD-8	SeA-1 ~SeD-8	SiA-1 ~SiD-8	SeA-1 ~SeD-8	No.1—No.8	SiA-1 ~SiD-8	SeA-1 ~SeD-8
64—95	Nothing recognized	MIA-1 ~MID-8	MEA-1 ~MED-8	MIA-1 ~MID-8	MEA-1 ~MED-8	No.1—No.8	MIA-1 ~MID-8	MEA-1 ~MED-8
96—127	Nothing recognized	MIA-1 ~MID-8	MEA-1 ~MED-8	MIA-1 ~MID-8	MEA-1 ~MED-8	No.1—No.8	Nothing transmitted	Nothing transmitted

SYSTEM **RCV-5 PRS**

Determines whether the K1r acts on pressure (aftertouch) data.

SYSTEM **RCV-6 BEND**

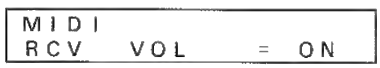
Determines whether the K1r acts on PITCH BEND data.

SYSTEM **RCV-7 MOD**

Determines whether the K1r acts on MODULATION data.

SYSTEM **RCV-8 VOL**

Determines whether the K1r acts on VOLUME data.



SYSTEM **RCV-8 HOLD**

Determines whether the K1r acts on HOLD pedal data.

SYSTEM **RCV-10 VEL**

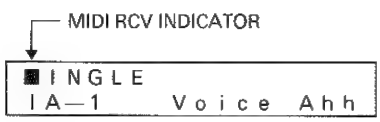
Determines whether the K1r acts on VELOCITY data.

SYSTEM **RCV-11 EXCL**

Determines whether the K1r acts on SYSTEM EXCLUSIVE data.

Note: MIDI RCV INDICATOR

Every time the K1r receives MIDI data, the sign appears at the upper left corner.



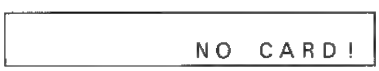
VII. Error Messages

(1) PROTECTED

The WRITE PROTECT parameter for the destination (internal memory or card) is ON. Turn it OFF. (See p.38.)

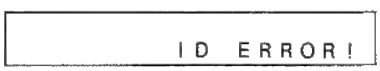
(2) NO CARD

The card is not correctly inserted.
Insert it firmly.



(3) ID ERROR

The card is not ready for use with the K1r. Format it. (See p.38.)



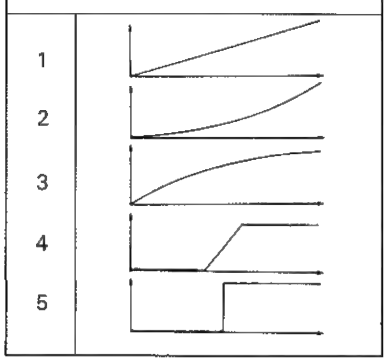
VIII. Appendices

1. SINGLE Patch Parameters

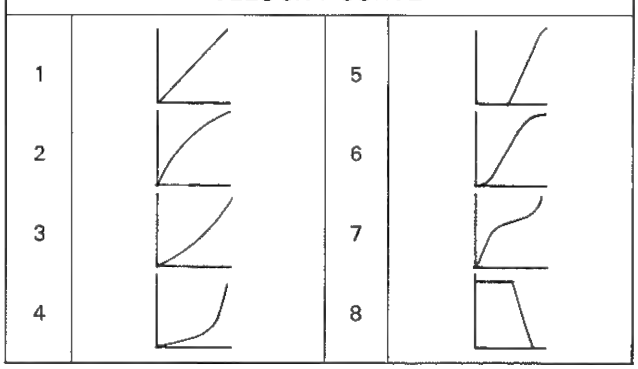
K1r SINGLE PARAMETERS

EDIT	1 VOLUME	1-100	2-11 NAME	10 characters		
COMMON A	1 SOURCES -VIBRATO- 2 DEPTH 3 SPEED 4 SHAPE 5 PRS→DEPTH 6 WHEEL	2/4 ±50 0-100 TRI/SAW/SQR/ RND ±50 DEP/SPD	-AUTO BEND- 7 DEPTH 8 TIME 9 VEL→DEPTH 10 KS-TIME	±50 0-100 ±50 ±50	11 PRS→FREQ 12 PITCH BEND 13 KS CURVE 14 POLY MODE	±50 0-12 1-5 PL1/PL2/SOLO
SW	PARAMETER		S1	S2	S3	S4
FREQ B	FREQ FREQ MOD	1 COARSE (FIXED KEY) 2 FINE 3 KEY TRACK 4 VIBRATO/AUTO BEND 5 PRS-FREQ 6 KS-FREQ	±24 C-4~G6 ±50 on/off on/off on/off ±50	KEY TRACK=ON KEY TRACK=OFF		
WAVE C	WAVE AM COPY	1 WAVE SELECT 2 AM S1.S2 3 AM S3.S4 4 COPY FROM	1-256 off/1→2/2→1 off/3→4/4→3 1A-8~eD-8 S1~S4			
ENV D	ENVELOPE VEL CURVE LEVEL MOD TIME MOD	1 LEVEL 2 DELAY 3 ATTACK 4 DECAY 5 SUSTAIN 6 RELEASE 7 VELOCITY CURVE 8 VEL→ENV LEVEL 9 PRS→ENV LEVEL 10 KS→ENV LEVEL 11 VEL→ENV TIME 12 KS→ENV TIME	0-100 0-100 0-100 0-100 0-100 0-100 1-8 ±50 ±50 ±50 ±50 ±50			

KS CURVE



VELOCITY CURVE



2. MULTI Patch Parameters

K1r MULTI PARAMETERS

EDIT	1 VOLUME 2-11 NAME	1~100 10 characters							
SW	PARAMETER	SC1	SC2	SC3	SC4	SC5	SC6	SC7	SC8
WINDOW 1	1 SINGLE (assign)	IA-1~iD-8 (name)							
WINDOW 2	1 ZONE LO 2 ZONE HI 3 VEL SW	C-2~G8 C-2~G8 ALL/SOFT/LOUD							
WINDOW 3	1 POLY 2 RCV CH	VR.0~8 1~16							
WINDOW 4	1 TRANSPOSE 2 TUNE 3 LEVEL 4 OUTPUT	±24 ±50 0~100 R/L+R/L							

AUX Parameters

K1r AUX PARAMETERS

SW	PARAMETER			VALUE		
WRITE	1 WRITE 2 LINK 1ST 3 LINK 2ND 〜 9 LINK 8TH			select with panel sw select with panel sw select with panel sw 〜 select with panel sw		
SYSTEM	1 SYSTEM/MIDI			SYS/TRS/RCV		
	SYS		TRS		RCV	
	2 SYSTEM TUNE	±50	2 MIDI trs CH	1~16	2 MIDI rcv CH	1~16
	3 TRANSPOSE	±12	3 PGM	on/off	3 OMNI	on/off
	4 INT PROTECT	on/off	4 MIDI DATA DUMP EXEC	BLOCK/PATCH	4 PGM	OFF/NORM /SECT/LINK
	5 CARD PROTECT	on/off			5 PRS	on/off
	6 CARD FORMAT EXEC				6 BEND	on/off
	7 SAVE EXEC				7 MOD	on/off
	8 LOAD EXEC				8 VOL	on/off
					9 HOLD	on/off
					10 VEL	on/off
					11 EXCL	on/off

Synthesizer
MODEL K1r

MIDI Implementation Chart

Date: Aug. 1988
Version: 1.0

Function ...		Transmistted	Recognized	Remarks
Basic Channel	Default	1—16	1—16	Memorized
	Changed	1—16	1—16	
Mode	Default	—	1, 3	Memorized
	Messages	×	OMNI on/off	MONO ignored
	Altered	* * *		
Note Number	: True voice	×	0—127	
		* * *	0—127	
Velocity	Note ON	×	*	
	Note OFF	×	×	
After Touch	Key's	×	×	
	Ch's	×	*	
Pitch Bender		×	*	
Control Change	1	×	*	Modulation
	7			
	64	×	*	Volume
		×	*	Hold
	100, 101	* (0, 1)	* (0, 1)	RPC
	6	*	*	Data entry
Prog Change	: True #	*	*	
		* * *	0—95	96—127 → 65—95
SystemExclusive		*	*	
System Common	: Song Pos	×	×	
	: Song Sel	×	×	
	: Tune	×	×	
System Real Time	: Clock	×	×	
	: Commands	×	×	
Aux Messages	: Local ON/OFF	×	×	
	: All Notes OFF	×	○ (123 ~ 127)	
	: Active Sense	○	○	
	: Reset	×	×	
Notes		* Can be set to ○ or × Memorized even after turning off the power RPC #0=Pitch Bender sensitivity #1=Master fine tuning Values are given by Data entry		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO ○ : Y
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO × : N

3. Specifications

K1r

Description Voices Tone patches	IU rack-mounted digital synthesizer module 16 max. (32 SOURCES) 96 internal (64 SINGLE, 32 MULTI) 96 external (64 SINGLE, 32 MULTI) per DC-8 card (available separately)
SINGLE EDIT	[EDIT] : VOLUME, NAME [A] COMMON (Shared by all SOURCEs) : SOURCE 2/4 VIBRATO DEPTH·SPEED·SHAPE·PRS→DEPTH, WHEEL ASSIGN, AUTO BEND DEPTH·TIME·VEL→DEPTH·KS→TIME, PRS→FREQ, PITCH BEND, KS CURVE, POLY MODE [B] FREQ (For each SOURCE) : COARSE (FIXED KEY), FINE, KEY TRACK, VIBRATO/AUTO BEND on off, PRS→FREQ on off, KS→FREQ on off [C] WAVE (For each SOURCE) : WAVE SELECT, AM S1.S2 AM S3.S4, COPY FROM [D] ENV (For each SOURCE) : LEVEL, DELAY, ATTACK, DECAY, SUSTAIN RELEASE, VEL CURVE, LEVEL MOD VEL·PRS·KS, TIME MOD VEL·KS
MULTI EDIT	[EDIT] : VOLUME, NAME [A] WINDOW1 : SINGLE ASSIGN [B] WINDOW2 : ZONE LO·HI, VEL SW [C] WINDOW3 : POLY, RCV CH [D] WINDOW4 : TRANSPOSE, TUNE, LEVEL, OUTPUT
WRITE	WRITE LINK 1ST~8TH
SYSTEM	[SYS] : TUNE, TRANSPOSE, INT PROTECT, CARD PROTECT, CARD FORMAT, SAVE, LOAD [TRS] : CH, PGM, DATA DUMP [RCV] : CH, OMNI, PGM, PRS, BEND, MOD, VOL, HOLD, VEL, EXCLUSIVE
Controls	VOLUME, PATCH SELECT Switch, WRITE Switch, SYSTEM Switch, POWER Switch, DC IN, OUTPUT R/MONO·L, PHONES JACK, CARD SLOT, MIDI IN·OUT·THRU
Display Dimensions (W × D × H) Weight Power consumption	16 × 2 LCD back lit 483 mm (19.1") × 242 mm (9.6") × 44 mm (1.8") 2.9 kg (6.4 lbs)
Accessories	AC adapter Owner's Manual Data format MIDI cable

Note: Appearance and specifications subject to change without prior notice.

KAWAI

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200 Terajima-cho, Hamamatsu, Japan

OW602E ®

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